

Lesson #11 B: Understanding, Solving, and Graphing Absolute Value Equations and Inequalities
(Reference: Lesson #74, #91, #94 & #101 in book)**Problem**

1. For each of the following equations please solve for x and express the solution in solution set notation.

1. $|x| = 6$

2. $|5x| = 30$

3. $5|x| = 45$

4. $|x + 3| = 16$

5. $5|x + 3| = 20$

6. $|x + 3| + 4 = 8$

7. $|2x - 4| + 8 = 28$

8. $5|2x + 6| - 7 = 33$

9. $3|2(x - 4) - x + 2| + 4 = 22$

10. $4|4(x - 3) + 2(-x + 2)| - 3 = 37$

11. For each of the following inequalities please solve for x , graph the inequality, and give me the solution in interval notation.

11. $|x| < 5$

12. $|x| - 6 \leq 4$

13. $|x + 7| > 3$

14. $-2|x| < -6$

15. $\frac{|x|}{4} > 2$

16. $|2x + 1| + 5 \geq 8$

Name: _____

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17. $-3|4x-2|-3 \geq -18$

18. $|-3(2x+2)+8x+3| > 15$

19. $4|2(x+3)-x+6|+1 < 21$

20. $\frac{|-3(x-2)+x-4|}{2} - 4 > 2$